



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0579; Project Identifier MCAI-2020-00267-R; Amendment 39-21748; AD 2021-20-10]

RIN 2120-AA64

Airworthiness Directives; Leonardo S.p.a. Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Leonardo S.p.a. Model AB139 and AW139 helicopters. This AD was prompted by a report of several occurrences of a cracked main gearbox (MGB) spherical bearing lock nut (lock nut). This AD requires removing from service a certain part-numbered MGB lock nut that is installed on certain part-numbered MGBs and replacing it with newly designed MGB lock nut. This AD also prohibits installing any MGB with the affected MGB lock nut and prohibits installing any affected MGB lock nut on any helicopter. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C.Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://customerportal.leonardocompany.com/en-US/>.

You may view the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-

5110. Service information that is incorporated by reference is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0579.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0579; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the European Union Aviation Safety Agency (EASA) AD, any comments received, and other information. The street address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Rao Edupuganti, Aerospace Engineer, Dynamic Systems Section, Technical Innovation Policy Branch, Policy & Innovation Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email rao.edupuganti@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Leonardo S.p.a. Model AB139 and AW139 helicopters, without MGB lock nut part number (P/N) 3G6320A09152 installed and with MGB P/N 3G6320A00131, 3G6320A00132, 3G6320A00133, 3G6320A00134, 3G6320A00135, 3G6320A00136, 3G6320A22031, 4G6320A00132, or 4G6320A00133 installed; or MGB P/N 3G320A00133 with serial number (S/N) M23, or MGB P/N 3G6320A00134, with S/N M6, N76, N92, P124, P129, P131, P162, P184, Q230, Q243, Q249, R272, V21, V39, V96, V163, V211, V241, V272, V281, V384, V386, or V622 installed; or MGB P/N 3G6320A00136 with S/N AW1, AW2, AW3, AW5, or AW10 installed. The NPRM published in the *Federal Register* on July 26, 2021 (86 FR 39984). In the NPRM, the FAA proposed to require within 100 hours time in service (TIS) or during the next scheduled MGB overhaul, whichever occurs first after the effective date of this AD, removing a certain part-numbered MGB lock nut from service and replacing it with a different part-numbered MGB lock nut. The NPRM also proposed to prohibit

installing an MGB having an affected MGB lock nut and also prohibit installing an affected MGB lock nut on any helicopter as of the effective date of the NPRM.

The NPRM was prompted a series of EASA ADs beginning with EASA AD 2019-0036, dated February 15, 2019 (EASA AD 2019-0036), issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for all serial-numbered Leonardo S.p.a. Helicopters (formerly Finmeccanica S.p.A, AgustaWestland S.p.A., Agusta S.p.A.; and AgustaWestland Philadelphia Corporation, formerly Agusta Aerospace Corporation) Model AB139 and AW139 helicopters. EASA advised that an occurrence was reported of a cracked MGB lock nut P/N 3G6310A09151, which is used to keep the planetary gears in position. EASA AD 2019-0036 required replacing each MGB lock nut with an airworthy MGB lock nut. EASA advised this condition, if not detected and corrected, could lead to failure of the MGB planetary gears, resulting in loss of control of the helicopter.

After EASA issued EASA AD 2019-0036, an additional occurrence was reported of a cracked MGB lock nut P/N 3G6320A09151. Accordingly, EASA superseded EASA AD 2019-0036 with EASA AD 2019-0174, dated July 18, 2019 (EASA AD 2019-0174), which retained the requirements of EASA AD 2019-0036 but reduced the compliance times. After EASA issued EASA AD 2019-0174, Leonardo Helicopters issued Alert Service Bulletin No. 139-609, dated December 18, 2019 to provide instructions for replacing the affected MGB lock nut with MGB lock nut P/N 3G6320A09152, which has a redesigned flange reducing the stress at the bearing nut locations where cracks were detected.

Accordingly, EASA then issued EASA AD 2020-0011, dated January 29, 2020, and corrected January 30, 2020 (EASA AD 2020-0011), which superseded EASA AD 2019-0174, and partially retained the requirements of EASA AD 2019-0174. EASA AD 2020-0011 revised the compliance times in EASA AD 2019-0174, required replacing each affected MGB lock nut with a newly designed MGB lock nut, and prohibited installing an affected MGB on any helicopter. After EASA issued EASA AD 2020-0011, EASA identified certain MGB part numbers that were inadvertently categorized incorrectly and therefore listed in the wrong group of helicopters. Accordingly, EASA

issued EASA AD 2020-0011R1, dated November 20, 2020 (EASA AD 2020-011R1), thereby revising EASA AD 2020-0011. EASA AD 2020-0011R1 retains the requirements of EASA AD 2020-0011 and corrects Appendix 1 of EASA AD 2020-0011.

After EASA issued EASA AD 2020-0011R1, Leonardo Helicopters issued Alert Service Bulletin No. 139-609, Revision A, dated April 13, 2021 (ASB 139-609 Rev A), which identifies an additional part-numbered MGB, which is also affected by the unsafe condition. Accordingly, EASA superseded EASA AD 2020-0011R1 with EASA AD 2021-0121, dated May 4, 2021 (EASA AD 2021-0121). EASA AD 2021-0121 adds an additional part-numbered MGB with a certain S/N to the list of affected parts. EASA AD 2021-0121 retains the requirements of EASA AD 2020-0011R1, and corrects Table 1 and Appendix 1 of EASA AD 2020-0011R1.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products.

Related Service Information Under 1 CFR Part 51

The FAA reviewed ASB 139-609 Rev A, which specifies procedures for replacing an affected MGB lock nut with the new MGB lock nut, within certain compliance times for certain part-numbered MGBs with certain serial numbers.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA also reviewed Leonardo Helicopters ASB No. 139-567, Revision B, dated October 18, 2019, which provides additional information for replacing the MGB lock nut.

Differences Between this AD and EASA AD 2021-0121

EASA AD 2021-0121 requires a compliance time based on number of landings, whereas this AD requires a compliance time based on hours TIS. The service information referenced in EASA AD 2021-0121 requires submitting certain information and parts to Leonardo, whereas this AD does not. EASA AD 2021-0121 applies to all serial-numbered Model AB139 and AW139 helicopters, whereas this AD only applies to Model AB139 and AW139 helicopters without certain part-numbered MGB lock nuts installed and with certain part-numbered MGBs installed.

Costs of Compliance

The FAA estimates that this AD affects 130 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Replacing each affected MGB lock nut with a newly designed MGB lock nut takes about 190 work-hours (during next MGB overhaul) and parts cost about \$7,600 for an estimated cost of \$23,750 per replacement.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on helicopters identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2021-20-10 Leonardo S.p.a.: Amendment 39-21748; Docket No. FAA-2021-0579; Project Identifier MCAI-2020-00267.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Leonardo S.p.a. Model AB139 and AW139 helicopters, certificated in any category, without main gearbox (MGB) spherical bearing lock nut

(lock nut) part number (P/N) 3G6320A09152 installed and with:

(1) MGB P/N 3G6320A00131, 3G6320A00132, 3G6320A00133, 3G6320A00134, 3G6320A00135, 3G6320A00136, 3G6320A22031, 4G6320A00132, or 4G6320A00133 installed, or

(2) MGB P/N 3G320A00133 with serial number (S/N) M23, or MGB P/N 3G6320A00134, with S/N M6, N76, N92, P124, P129, P131, P162, P184, Q230, Q243, Q249, R272, V21, V39, V96, V163, V211, V241, V272, V281, V384, V386, or V622 installed, or

(3) MGB P/N 3G6320A00136 with S/N AW1, AW2, AW3, AW5, or AW10 installed.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6320, Main Rotor Gearbox.

(e) Unsafe Condition

This AD was prompted by a cracked MGB lock nut. The FAA is issuing this AD to replace an affected MGB lock nut with a new MGB lock nut. The unsafe condition, if not addressed, could result in failure of the MGB planetary gears, resulting in loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 100 hours time-in-service, or during the next scheduled MGB overhaul, whichever occurs first after the effective date of this AD, remove each MGB lock nut P/N 3G6320A09151 from service and replace with MGB lock nut P/N 3G6320A09152 in accordance with Annex A, steps 1 through 17, of Leonardo Helicopters Alert Service Bulletin No. 139-609, Revision A, dated April 13, 2021, except you are not required to send parts to Leonardo Helicopters.

Note to paragraph (g)(1): Leonardo Helicopters service information refers to an MGB lock nut as a ring nut.

(2) As of the effective date of this AD, do not install any MGB having MGB lock nut P/N 3G630A09151 on any helicopter, and do not install any MGB lock nut P/N 3G630A09151 on any helicopter.

(h) Special Flight Permits

Special flight permits are prohibited.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Rao Edupuganti, Aerospace Engineer, Dynamic Systems Section, Technical Innovation Policy Branch, Policy & Innovation Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email rao.edupuganti@faa.gov.

(2) The subject of this AD is addressed in European Union Aviation Safety Agency (EASA) AD 2021-0121, dated May 4, 2021. You may view the EASA AD at <https://www.regulations.gov> in Docket No. FAA-2021-0579.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Leonardo Helicopters Alert Service Bulletin No. 139-609, Revision A, dated April 13, 2021.

(ii) [Reserved]

(3) For service information identified in this AD, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C.Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://customerportal.leonardocompany.com/en-US/>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on September 16, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2021-22468 Filed: 10/15/2021 8:45 am; Publication Date: 10/18/2021]